

REMARKS

Claims 1, and 3 to 34 are in this application and are presented for reconsideration. By this Amendment, Applicants have amended claims 1, 19, 24, and 29 to highlight the combination of features suggested by the Examiner during an interview. Claim 2 had been canceled in a previous amendment. Reconsideration of the claims as amended is requested.

Applicants thank the Examiner for the telephone interview conducted on November 29, 2006 during which the Examiner was kind enough to suggest the emphasis on the features which will overcome the prior art of record. Applicants also thank the Examiner for clarifying and documenting the recommended changes in the Interview Summary mailed out on December 4, 2006.

By this Amendment, Applicants have amended several claims to overcome the rejections and respectfully address the issues in the outstanding office action dated November 9, 2006 in the following paragraphs.

I. Claim Rejections- 35 U.S.C. §102(b)

A. U.S. Patent No. 4,574,049 to Pittner

Claims 1, 4, 6-24, 28, 30, 31, 33 and 34 including the independent claims 1, 19, and 24 have been rejected as anticipated by U.S. Patent No. 4,574,049 to Pittner (the "Pittner '049" reference, hereinafter). The Pittner '049 reference discloses a chemical reverse osmosis water purification system and process in which the inlet of a second reverse osmosis unit is coupled in series to the product water outlet of a first reverse osmosis unit. Water to be purified is conditioned by an ion exchange resin type water softener and pumped to the inlet of the first

reverse osmosis unit. The product from the first reverse osmosis unit is treated with a chemical treatment agent, such as a sodium hydroxide solution, upstream of the inlet to the second reverse osmosis unit. The brine from the brine outlet of the second reverse osmosis unit is re-circulated to the water flow line upstream of the first reverse osmosis unit.

The prior art as a whole including the Pittner '049 reference neither teaches nor suggests the present invention as claimed. As stated in the Applicants' Amendment dated September 25, 2006, the Pittner '049 reference discloses a non-industry pure water purifier apparatus having an ion water softener and a carbon filter such as used in a municipal water supply. Examiner pointed out that such differences in the combination of features are absent in the claims and have suggested certain phrases which will overcome the Pittner '049 reference.

The independent claims 1, 19, 24 and 29 as amended emphasize the feature where the water feed that leads into the apparatus of the invention leads in from **water exposed to hydrocarbon and/or chemical processing**.

Furthermore, the claims also emphasize the feature that no **pre-filtering step is required** between the chemical and processing step and the step of forcing the water feed through the reverse osmosis system (although different types of refinement processes are envisioned by the inventors and the claims). The dependent claims 4, 6 to 18, 20 to 23, 28, 30, 31, 33 and 34 also include the features of the independent claims. Thus, it is Applicants' position that the Pittner '049 reference fails to disclose or suggest the present invention as now amended.

B. U.S. Patent No. 5,925,255 to Mukhopadhyay

Claims 1, 6-10, 12-22 and 24-26, 28, 30, 31, 33 and 34 have been rejected by the U.S. Patent No. 5,925,255 to Mukhopadhyay (the "Mukhopadhyay '255" reference, hereinafter). The Mukhopadhyay '255 reference discloses a process for treatment of water via membrane separation equipment. According to the Mukhopadhyay '255 reference, hardness and non-hydroxide alkalinity are removed from feedwaters to very low levels in a set of pre-treatment processes, preferably by simultaneous removal in a weak acid action ion exchange resin. Then, ionization of sparingly ionizable components in the feedwater is substantially accomplished by increasing the pH of the feedwater preferably up to about pH 10.5, or higher. In this manner, species such as silica become highly ionized, and (a) their rejection by the membrane separation process is significantly increased, and (b) their solubility in the reject stream from the membrane process is significantly increased.

It is Applicants' position that the prior art as a whole including the Mukhopadhyay '255 reference neither teaches nor suggests the present invention as now amended. As stated in the Applicants' Amendment dated September 25, 2006, the Mukhopadhyay '255 reference, which also refers to the Pittner '049 reference, requires pretreatment units. The Mukhopadhyay '255 reference discloses a complex system that includes a pretreatment process for removing a solute. Specifically, the solute treatment includes a treatment for removing hardness and substantially all alkalinity associated with the hardness. Such removal is performed in a different unit altogether.

Claims as now amended clarify that the current invention does not require any pre-filtering steps before the reverse osmosis system. Thus, the system as disclosed in the Mukhopadhyay '255 reference fails to disclose the simple and efficient set up described by the Applicants.

C. U.S. Patent No. 6,054,050 to Dyke

Claims 1-7, 10-14, 19 and 20 have been rejected by the U.S. Patent No. 6,054,050 to Dyke (the "Dyke '050" reference, hereinafter). The Dyke '050 reference discloses a process for removing soluble and insoluble organic and inorganic contaminants from refinery wastewater streams employing ultra-filtration and reverse osmosis.

The Dyke '050 reference does not anticipate nor does it suggest the present invention as currently amended. Similar to the Mukhopadhyay '255 reference, the Dyke '050 reference discloses a process that requires additional pretreatment system. Specifically, the system according to the Dyke '050 reference requires at least an ultra-filtration membrane to remove the insoluble contaminants and divalent and trivalent metal cations. Such complex system does not anticipate nor does it suggest the eloquent simplicity of the present invention as disclosed.

The claims as now amended clarify that the current invention does not require any pre-filtering steps before the reverse osmosis system. Thus, the system as disclosed in the Dyke '050 reference neither anticipates nor suggests the present invention as claimed.

Claim Rejections- 35 U.S.C. §103(a)

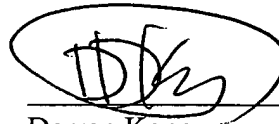
Claim 23 has been rejected by the Mukhopadhyay '255 reference in view of the Dyke '050 reference. Claim 4 has been rejected by the Dyke '050 reference in view of the Mukhopadhyay '255 reference. Claims 3, 5, 27 and 29 have been rejected by the Pittner '049 reference in view of the U.S. Pat. No. 5,766,479 to Collentro et al. Claims 4, 25, and 26 have been rejected by Pittner '049 reference in view of the U.S. Pat. No. 5,997,545 to Tonelli et al.

All of the independent claims now include the combination of features discussed above. Because the dependent claims depend on the independent claims and include the same combination of features which overcome the prior art of record, none of the references above contain all of the elements, or their equivalents, of the independent claim. Thus, the claimed invention can not be made obvious by the combination of the above references.

In view of the above amendments and remarks, Applicants respectfully submit that the present application, including claims 1, and 3 to 34, is now in condition for allowance. Favorable action thereon is respectfully requested.

Should the Examiner have any questions with respect to the above amendments and remarks, the Examiner is respectfully requested to contact Applicants' undersigned counsel at the telephone number below.

Respectfully submitted,

A handwritten signature in black ink, appearing to be "DK", is enclosed within a hand-drawn oval.

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